




IT at Work

AN EXPERT SYSTEM THAT FAILED



Integrating  ...in Production & Operations Management

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Mary Kay, the multinational cosmetics company, uses teams of managers and analysts to plan its products. This process attempted to iron out potential weaknesses before production. However, the company still faced costly errors resulting from such problems as product-container incompatibility, interaction of chemical compositions, and marketing requirements with regard to packaging and distribution.

An eclectic group of Mary Kay managers, representing various functional areas, used to meet every six weeks to make product decisions. The group's decision-making process was loosely structured: The marketing team would give its requirements to the product formulator and the package engineer at the same time. Marketing's design requests often proved to be beyond the allocated budget or technical possibilities, and other problems arose as a result of not knowing the ultimate product formulation. The result was more meetings and redesign.

Mary Kay decided to implement an expert system to help. In an effort to keep costs to a minimum, it engaged the services of a research university that developed a system that consisted of a DSS computational tool plus two ES components. The decision support tool was able to select compatible packages for a given cosmetic product and to test product and package suitability. The ES component used this information to guide users through design and to determine associated production costs.

At first the system was a tremendous success. There was a clear match between the abilities of the system technol-

ogy and the nature of the problem. The director of package design enthusiastically embraced the system solution. The entire decision process could have been accomplished in two weeks with no inherent redesign. By formulating what previously was largely intuitive, the ES improved understanding of the decision process itself, increasing the team's confidence. By reducing the time required for new product development, executives were freed for other tasks, and the team met only rarely to ratify the recommendations of the ES.

However, without support staff to *maintain* the ES, no one knew how to add or modify decision rules. Even the firm's IT unit was unable to help, and so the system fell into disuse.

More importantly, when the director of package design left the firm, so did his enthusiasm for the ES. No one else was willing to make the effort necessary to maintain the system or sustain the project. Without managerial direction about the importance of the system to the firm's success, the whole project floundered.

For Further Exploration: What can a company do to prevent such failures? Can you speculate on why this was not done at Mary Kay?

Source: Condensed from R. G. Vedder et al., "An Expert System That Was," *Proceedings, DSI International*, Athens, Greece, July 1999.